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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,045	03/06/2006	Johan Ulin	12090-000016/US	7386
30/593 7590 03/03/2010 HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 8910 RESTON, VA 20195				
EXAMINER				
WHITE, DENNIS MICHAEL				
ART UNIT		PAPER NUMBER		
1797				
MAIL DATE		DELIVERY MODE		
03/03/2010		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/539,045

**Applicant(s)**

ULIN ET AL.

**Examiner**

DENNIS M. WHITE

**Art Unit**

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 February 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 15-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI/200)
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date: \_\_\_\_\_

### DETAILED ACTION

1. After-final arguments filed on 2/2/2010 have been considered. The finality of the previous office action has been withdrawn. Currently claims 15-29 are pending.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 15-21 and 23-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jennings (US 2002/0101310) in view of Commarmot et al (USP 4,693,867).

Regarding claims 15-17 and 25, 27-29, Jennings teaches an instrument for microwave-assisted chemical processes comprising:

a microwave transparent reaction vessel 105 having an open upper end and a closed bottom end;

a collet assembly having a through hole ("a cap having a through hole");

a septum 134 made of a material, preferably an appropriate polymer or silicone related material ("sealing diaphragm" "sealing, elastic diaphragm")

(Para. 0072-0076)

a removable attenuator 33 ("sleeve") with a through hole, the vessel 105 extending axially through the attenuator, the collet securing the vessel to the attenuator (see Fig. 11) while clamping the septum to form a pressure seal (Para. 0072) ("diaphragm for sealing the open upper end of the vessel"). The open upper end of the vessel is formed with a widening portion. The widening portion

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is received in the attenuator. The device is used in methods for performing microwave-assisted chemical reactions including steps of initiating or accelerating chemical reactions.

Jennings is silent about the widening portion is received by a corresponding recess formed in an end plane of the attenuator, and the recess providing a seat for the widening portion in the open upper end of the vessel.

Commarmot et al teach a container 12 ("micro vial") assembly for performing microwave-assisted chemical reactions, the assemble comprising: a container 12 made of glass ("a micro-wave transparent reaction vessel having an open upper end and a closed bottom end"); a cover 90 ("cap") having a tube 95 ("through hole"), wherein two half-shells 86 ("a sleeve") is framed with a through hole, the container 12 ("vessel") extending axially through the two half-shells 86 ("sleeve") and the cover 90 ("cap") securing the vessel to the sleeve while clamping, the open upper end of the vessel being formed with a widening portion, the widening portion being received in a corresponding shoulder 87 ("recess") formed in an end plane of the sleeve, the shoulder providing a seat for the widening portion in the open upper end of the vessel (see Fig. 14 below). It is desirable to provide a shoulder ("recess") to hold the widening portion of the vessel in order to hold the reaction vessel in a defined position. Commarmot teach the upper end of the two half-shells 86 ("sleeve") is formed circumferentially for engagement with the cap, the sleeve having a first diameter portion running from the upper end to meet a reduced diameter portion in the

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lower end of the sleeve (see Fig. 14 above). Commarmot teach the portion of reduced diameter in the lower end of the sleeve is a truncated cone.

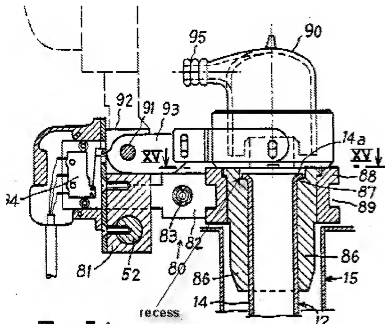


Fig. 14

Simple substitution of one known element for another to obtain predictable results is held to be obvious. Therefore, it would have been obvious to one of ordinary skill in the art to substitute the sleeve 86 of Commarmot with the attenuator of Jennings because they are known sleeves to hold microwave reaction vessels in a defined position during the reaction.

Regarding claim 18, Jennings/Commarmot teach the widening portion of the vessel and the seat in the end plane of the sleeve are both conical in shape (Jennings: Fig. 13 and Commarmot: Fig. 14).

Regarding claims 19-21, Jennings/Commarmot the container has a rim that extends to the diaphragm (Jennings: Fig. 11 and Commarmot: Fig. 8), sealing the open end of the vessel wherein a reducing radius portion smoothly

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transforming into a portion of continuous radius defining a reaction chamber of the verse cavity. Jennings is silent that the rim protruding above where the shoulder and flange of the sleeve and the upper rim extends transversely. Commarmot further shows container 12 wherein the upper rim extends transversely (see Fig. 8 below).

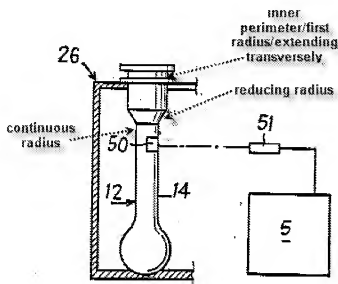


Fig. 8

Simple substitution of one known element for another to obtain predictable results is held to be obvious. Therefore, it would have been obvious to one of ordinary skill in the art to substitute the reaction vessel 12 of Commarmot with the reaction vessel 105 of Jennings because they are known reaction vessels to perform high pressure reactions activated by microwaves. It is noted that when the vessel is supported in the sleeve, the rim is being dimensioned to be depressed in the lower side of the diaphragm.

Regarding claims 23-25, Jennings/Commarmot teach the vessel has an inner volume. The inner volume is fully capable of including a head-space volume which is less than 20 times that of the smallest reaction mixture volume contained in the vessel, for performing microwave-assisted chemical reactions on small volumes of 500 .mu.l or less, and for performing microwave assisted chemical reactions on small reaction mixture volumes

Regarding claim 26, Jennings/Commarmot teach the outer perimeter of the sleeve is dimensioned for bridging the radial distance between a wall of the vessel and an entrance diameter, of a microwave cavity in the system.

4. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jennings (US 2002/0101310) in view of Commarmot et al (USP 4,693,867) and further in view of Bennett et al (USP 5,520,886).

Jennings/Commarmot et al teach the limitations of claim 15 as per above.

Regarding claim 22, Jennings/Commarmot teach the bottom of the container 12 can be generally semi-spherical in form or have a flat bottom if the container is of the ordinary tubular type or in the form of a bulb in the case of a flask. Commarmot is silent about the bottom located above the terminal end of the vessel.

Bennett et al teach sealable container assemblies include containers for materials which are to be microwave heated. The bottom of the reaction vessel is formed above the terminal end of skirt 31. It is desirable to form the bottom above the terminal end of the container to provide a skirt that avoids dangerous

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explosions by allows for a more gradual failure of the container. The skirt also allows the container to stand upright on its own when the bottom is rounded.

Therefore it would have been obvious to one of ordinary skill in the art as motivated by Bennett et al to form the bottom of the reaction vessel of Commarmot et al above the terminal end of the skirt as in Bennett et al because the skirt facilitates distortion downwardly of the container bottom and thereby promotes a more gradual failure of the container and slower release of contents during high pressures (col. 3 lines 40-47).

For Claim 22, it is noted that this claim contains product-by-process language. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process, consult In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). In this case the bottom of the reaction vessel of Commarmot/Bennett seems similar to those instantly claimed.

Therefore, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product, consult In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983).

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 15-29 have been considered but are moot in view of the new ground(s) of rejection.



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***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DENNIS M. WHITE whose telephone number is (571)270-3747. The examiner can normally be reached on Monday-Thursday, EST 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LYLE A ALEXANDER/  
Primary Examiner, Art Unit 1797

/dmw/

